Remarks

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Thus, in response to the Examiner's objection to the disclosure, although it is no longer necessary to amend the first sentence of the specification to reference the International application (MPEP 1893.03(c), page 1800-200, bottom of left column), the specification has been amended to insert the priority data as suggested by the Examiner, on page 1 after the title of the invention. This renders the objection to the disclosure moot.

Claim 1 has been amended to recite that the β-conglycinin content of the protein is 40% by weight or more, based on the disclosure at page 3, line 14 of the specification.

Claim 2 has been amended to change the pH to 4.0 to 5.6, based on the disclosure at page 8, line 8.

The patentability of the presently claimed invention over the disclosures of the references relied upon by the Examiner in rejecting the claims will be apparent upon consideration of the following remarks.

Thus, the rejection of claims 1-4 and 6-7 under 35 U.S.C. §102(b) as being anticipated by Renkema et al. is respectfully traversed.

As described at page 2, lines 2-5 of the present specification, protein rich in β-conglycinin has a remarkably high viscosity as compared with other soybean protein originated from soybeans. The present invention is directed to lowering such high viscosity.

The soybean protein referred to in Renkema et al. is that containing 20-35% β-conglycinin (see page 223, right column, line 4 from the bottom). There is no teaching or suggestion of protein rich in β-conglycinin (**40% or more**) in Renkema et al., as required by the present invention.

Further, it should be noted that the solubility referred to in the present application is the solubility in a neutral range after heating under acidic conditions (see page 4, lines 14-15 of the specification and claim 4). On the other hand, since Table 1 of Renkema et al. pointed out by the Examiner shows the solubility at pH 3.8, this is clearly different

from the solubility in a neutral range after heating under acidic conditions. Furthermore, page 228, right column, lines 15-16 of Renkema et al. discloses that "protein solubility of SPI at pH 3.8 was already low prior to heating". This means that Table 1 teaches nothing about the effect of heating under acidic conditions on solubility of β-conglycinin in a neutral range.

Fig. 2 of Renkema et al. shows the change in denaturation temperatures of protein at various pH ranges. According to Fig. 2, the denaturation temperature of β-conglycinin is only slightly lower at an acidic range than that at other ranges. In view of this, the change in denaturation temperatures of β-conglycinin in various pH ranges is considered to be very little. The data of β-conglycinin in Fig. 2 are those merely inferred from the measurement of soybean protein (30% of β-conglycinin and 60% of glycinin) and purified glycinin, and do not teach or suggest reduction of solubility by heating under acidic conditions in the present invention. That is, as seen from Table 1 on page 19 of the present application, the solubility of β-conglycinin protein of the present invention after heating remarkably varies depending upon pH, and heating at pH 4.0 to 5.6 has a significant effect on solubility, i.e., reduction of solubility (degree of irreversible denaturation). No correlation is found between the change in denaturation temperatures in Fig. 2 of Renkema et al. and the change in solubility in the present invention.

Furthermore, in Renkema et al., the disclosure at page 228, right column, lines 7-12 seems to suggest that glycinin and β-conglycinin form a complex, and Fig. 1 teaches that the denaturation temperature of fractionated glycinin and that of glycinin in SPI are different. These teachings rather suggest that the behavior of purified β-conglycinin is different from that of β-conglycinin in SPI.

Therefore, Renkema et al. do not teach or suggest that purified β-conglycinin is insolubilized in an acidic region.

For these reasons, Applicants take the position that the Renkema et al. reference fails to anticipate any of claims 1-4 and 6-7 of the present application.

The rejection of claims 1-9 under 35 U.S.C. §103(a) as being unpatentable over Renkema et al. and further in view of Makoto et al. is respectfully traversed.

The comments set forth above concerning the Renkema et al. reference are considered to be equally applicable to this rejection.

The Examiner states that Makoto et al. teach that soy protein, which comprises β-conglycinin, can be used as a cereal protein (page 4, lines 4-5 of the Office Action). However, the Examiner misunderstands the term "cereal protein" in Makoto et al. The "cereal protein" means protein originated from cereal plants including soybeans. This reference does not teach or suggest the utilization of β-conglycinin in food.

In view of the distinctions between the present invention and the Renkema et al. and Makoto et al. references, Applicants take the position that even a combination of the references does not suggest the subject matter of claims 1-9 of the present application.

Therefore, in view of the foregoing amendments and remarks, it is submitted that each of the grounds of objection and rejection set forth by the Examiner has been overcome, and that the application is in condition for allowance. Such allowance is solicited.

Respectfully submitted,

Masahiro ISHIKAWA et al.

By: 

Michael R. Davis
Registration No. 25,134
Attorney for Applicants

MRD/pth
Washington, D.C. 20006-1021
Telephone (202) 721-8200
Facsimile (202) 721-8250
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